

cal poisoning which was supposed to have injured so many operatives who used green pigments for printing wall paper designs. It turned out, of course afterwards, that the green pigments were chrome pigments, and the percentage of arsenic contained in the aniline dyes was so minute that even if they had dusted off it is a question whether they would have done any harm, for the pigments which are printed on wall paper are never released from their base.

The precautions that are taken in the white lead factories in the United States are so great that the plumbism which results is due to a large extent to the carelessness of the workmen themselves. As far as my personal experience goes, it is the hardest thing in the world for us to educate illiterate workmen that they must wash their hands before they eat, and the State is now distributing circulars printed in various languages notifying workmen that it is illegal for

an employer or an employee to permit food to be consumed where these materials are manufactured. We are all well aware that the transportation of high explosives is exceedingly dangerous. There have been some frightful holocausts resulting from explosions in transit, and yet it is safe to say that any civilized country would go back untold and countless years if laws were enacted prohibiting the transportation of explosives, for coal metals and minerals would lie practically untouched in the ground; and the only safeguard is that, knowing that the materials are necessary for the excavation of the riches of the earth, due care should be taken in their transportation. Practically the same is true in the manufacture of any hazardous material, and therefore sensational and irresponsible statements pertaining to the manufacture of any chemical, whether it be lead or nitroglycerine, are to be decried.

### COSTS OF CONCRETE PAVEMENT.

We publish below a table taken from the Journal of the American Society of Engineering Contractors, showing the amount, average price, and some details of concrete pavements constructed in a number of American cities:—

	Sq. yd.	Av. price per sq. yd., including grading.	Guar- antee. Years.	Total thick- ness of pavement. Inches.	Propor- tions.
Portland, Me. ....	11,238x	\$1.29	....	6	1:2½:5
Lynn, Mass. ....	21,402	1.70	5	6	1:2:4
Trenton, N.J. ....	2,826	1.44	1	6	1:2½:5
Seymour, Ind. ....	1,250	.90	3	7	1:6¹
Edwardsville, Ill. ....	8,950	1.40	½	7²	1:3:5
Alpena, Mich. ....	13,000	1.30	....	8	1:6
Escanaba, Mich. ....	12,000	.87	0	6¾	.....
Fond du Lac, Wis. ....	11,043x	1.25	5	6½	1:2½:5
Sheboygan, Wis. ....	19,860x	1.28	0	8½³	.....
Bemidji, Minn. ....	19,826	.90*	2	5	1:3½
Burlington, Iowa ....	4,489	1.34	5	6½	1:2:5
Cedar Rapids, Iowa ....	2,178	1.16*	....	7⁴	1:3:5
Davenport, Iowa ....	13,208	1.23*	2	7⁵	1:3:5
Fort Dodge, Iowa ....	7,900	1.60	5	7⁷	1:3:5
Marshalltown, Iowa ....	14,000	1.18	0	7	1:3:5
Mason City, Iowa ....	42,000	1.30	5	7⁸	1:2:5
Sioux City, Iowa ....	100,000	1.20	....	5	1:3:4½
Kansas City, Mo. ....	81,000	1.05	5	6	1:2½:4½
Grand Island, Neb. ....	3,754	1.30	....	....	.....
Omaha, Neb. ....	4,485	....	....	....	.....
South Omaha, Neb. ....	13,200	1.30	5	6¹⁰	1:2½:5
Kansas City, Kans. ....	....	1.09	5	6	.....
Ottawa, Kans. ....	996	1.03*	2	6	1:2:3
Wichita, Kans. ....	2,137	1.00*	2	6	1:2:4
Billings, Mont. ....	2,000	2.25	2	7½¹¹	1:6
Boise, Idaho ....	23,166	1.12*	....	6	1:3:5¹²
Grand Junction, Col. ....	18,000	2.20	....	7¹³	1:3:6
Vancouver, Wash. ....	15,220	1.15*	....	5	.....
Portland, Ore. ....	31,417	....	....	....	.....
Salem, Ore. ....	85,266	1.30*	0	6	1:2:4

\* Does not include grading. x Reinforced.

¹ 1-6 mix; 1-2 surface. ² 5 in. base, 1-3-5 mix; 2 in. top of 1 cement, 1 small gravel, 1 sand. ³ 4 in. base, 2 in. wearing surface. ⁴ 5 in. base, 1-2½-5; 1½ in. top, 1 cement, 1 sand, 1 gravel. ⁵ 6½ in. at gutter, 8½ in. at centre. ⁶ 5 in., 1-3-5 mix; 2 in. top 1-2. ⁷ 5 in. base, 1-3-5; 2 in. top 1-1-1. ⁸ 5 in. base 1-2-5; 2 in. top 1-2. ⁹ 1¾ in. 2-3 grout; 5¼ in. 1-7 mix. ¹⁰ 6 in. and 8 in. ¹¹ Laid in 6 in. gravel base; pavement; 6 in. 1-6 gravel base and 1½ in. 1-2 mortar top. ¹² Also 1-3-7. ¹³ 5 in. base, 2 in. top. ¹⁴ 5 in. of 1-3-5 and 1¾ in. of 1-2.

The three great liners of about 50,000 tons each, which have been ordered by the Hamburg-American line, says an English exchange, are going to be fitted out with telephone

exchanges of the most modern type, to which each cabin will be connected. This marks a very appreciable and further addition to the luxury of trans-oceanic travel.